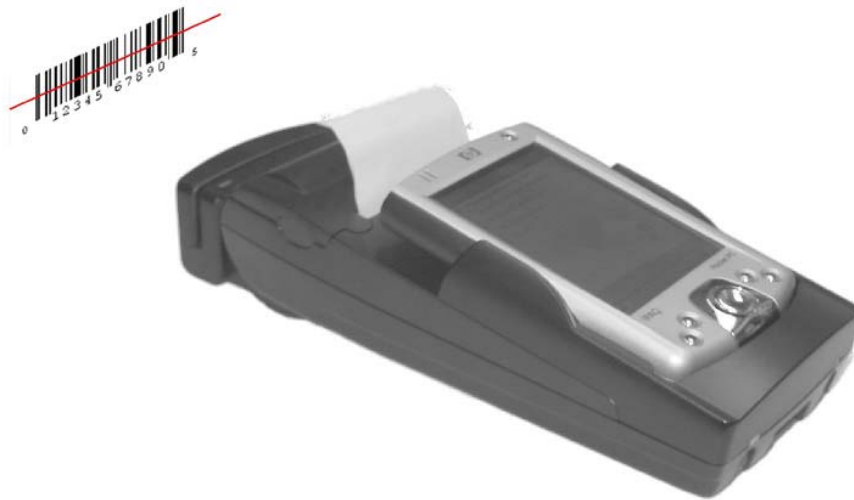




**INFINITE PERIPHERALS**  
PROVIDER OF CUSTOM RECEIPT PRINTING SOLUTIONS

# ***PP-55***

## ***Pocket PC User's Manual***



**Infinite Peripherals, Inc.**

[www.ipcprint.com](http://www.ipcprint.com)

*PP-55 User's Manual v4.01 for Pocket PC*

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# Technical Data

Feature	Specifications
Printing method	Line thermal dot printing
Printing speed	50 mm per second
Dot density	8 dot/mm, 203 dpi – Horizontal and Vertical
Resident fonts	A – 12 x 24      B – 9 x 16
Loadable fonts	C – 12 x 24      D – 9 x 16
Printing columns	Font A, C – 32 columns Font B, D – 42 columns
Logo Registration	1 Black & White BMP format ( 1-bit per pixel) Size: 384 x 240
Memory	RAM 1Mbit
Resident Barcodes	EAN13, EAN8, UPCA, UPCE, Code39, Code93, Code 128, Interleave 2 of 5, Codebar, PDF417
Communications	Serial RS232, Optional 2 x USB Master/Slave
Magnetic Card Reader	3 track head, ISO7811
1D Barcode Reader	Symbol Linear Image Scanner
Power supply	Rechargeable Lithium Ion battery, 7.4V @ 2000 mAh Battery capacity: ~ 4 Rolls (Alpha-numeric data) AC adapter – 9V @ 1000 mA
Environment	Operating temp. -10°C to 45°C @ 10 to 90 % RH Storage temp. -25°C to 70°C @ 10 to 90 % RH
Reliability	50 Million pulses 50 km
Dimensions	L – 195 mm, H – 50 mm, W – 87 mm Weight – 390 grams including battery and paper roll
Thermal paper	Roll 57.5 ± 0.5 mm wide 40 mm Ø (~ 80 feet) Thickness 0.06 ~ 0.10 mm

Table 1

.....

# Box Contents

Your IPC PP-55 comes with the following items listed below:






Item	Part Number	Descriptions	Image
1	PP55XX-XX	PP55 Thermal Printer	
2	P50-DAT02-55	Lilon Battery for PP55	
3	P50-DAT03-55	Power Adapter 115 Volt for PP55	
4	P50-DAT06-55	Interface cable (Hot Sync) for PP55	
5	P5802	(1) Roll Thermal Media	

Table 2

## Software ( Drivers & SDK ):

Because of the continually evolving Driver & SDK to support new Pocket PC device, Drivers & SDK are distributed online and is available for download at our website indicated below. For details on using the PP55 Pocket PC device Drivers & SDK, please refer to the SDK's documentation.

For the latest PP-55 SDK's, visit our developer web site at:

<http://www.ipcprint.com/support/default.asp>

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# Getting Started

The IPC PP-55 allows you to print information from your Pocket PC PDA & Smartphone. Before using the printer the battery should be properly charged and thermal media installed. The following Quick Start guide will help to get your PP55 ready for use.

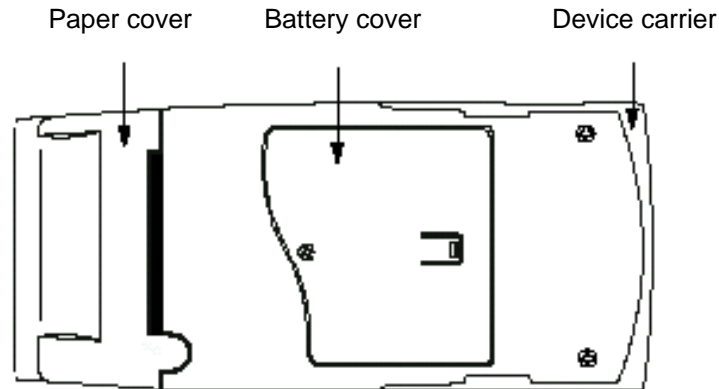
## Quick Start:

Steps	What to do	Purpose	Where to find more information
1	Charge the PP-55 rechargeable battery pack as recommended in this manual.	The Lithium Ion battery pack should be fully charged before use to ensure long battery life.	Charging Battery, Page 5
2	Load PP-55 print media (Thermal Paper)	PP-55 requires Thermal paper for printing.	Loading Paper, Page 7
3	Install Print Software	To print from your Pocket PC device, software needs to be installed on to your device.	<p>Printing software is not provided by IPC.</p> <p>Please contact your PP55 reseller or Infinite Peripherals for recommendations on Third-Party solutions.</p> <p>Developers should refer to the section in this manual on "Developing Solutions".</p>

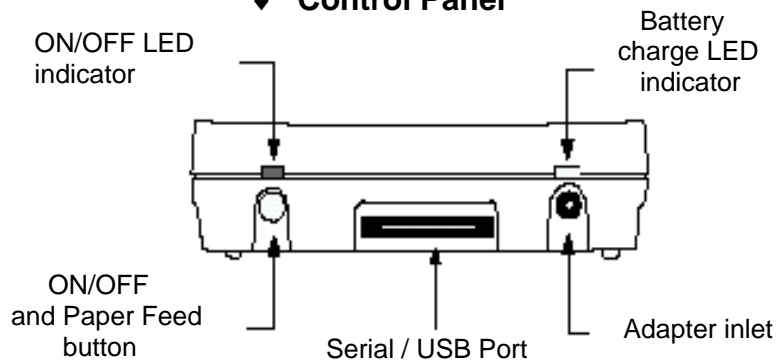
Table 3

# About Your PP-55

## ◆ PP-55 Overall View



## ◆ Control Panel



## ◆ Battery recharge

**NOTE:** With a fully charged battery, PP-55 can print out more than 5000 inches of (alpha numeric) data.

*Prolonged periods of storage can cause a drop in the power of the printer's rechargeable battery!*

*To recharge the battery, plug AC/DC adapter supplied with printer and charge until the red battery charge indicator turns to green.*

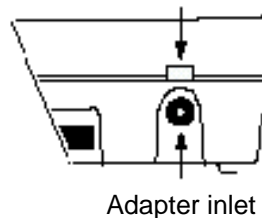


Figure 1

# Charging Battery

## Charging PP-55:

The PP-55 uses a Lithium Ion rechargeable battery pack. Before first use, the PP-55 battery pack should be charged for at least 4 hours.

To prevent electrical damage to the printer and/or battery pack, please use approved AC/DC adapter only.



Figure 2

## Charging PP-55 & Pocket PC device:

The PP-55 has a built-in charging circuit to enable the charging of (selected models) of Pocket PC device while in the PP-55's cradle. PDA charging only occurs when the external AC/DC adaptor is connected to PP-55 adapter inlet.

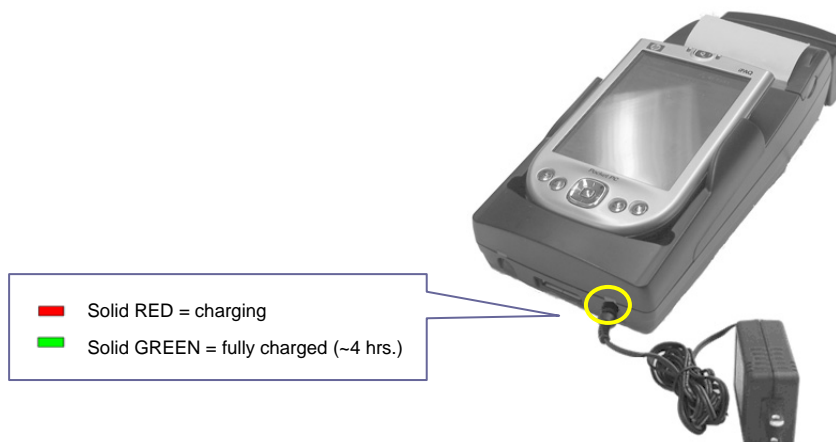
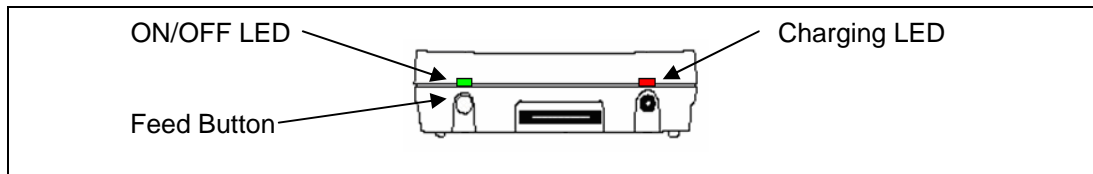


Figure 3

# Printer Status & Operating Modes

The PP-55 uses LEDs to indicate various conditions of operation. This may be charging, printing, out of paper or error conditions. The following explains these conditions and LED indication.









Printer Status		
Battery Charging LED		Solid GREEN = Battery at full charge
		Solid RED = Battery charging
ON/OFF LED		Solid GREEN = Power ON
		Solid RED = Low battery
		Slow Blinking = High temperature error
		Fast Blinking = Printer out of paper

Table 4

The PP-55's paper feed switch/button is used for entering various printer modes. These modes can be used to assist developers in debugging problems related to programming and communication. The following explain how to access the various operating modes.

Operation Modes		
Short Push	N/A	Paper feed
Push and Hold - release after the number of beeps	1 - beep	Self-test
	2 - beeps	Hex dump
	3 - beeps	Reserved – For factory use only
	4 - beeps	Reserved – For factory use only
	5 - beeps	Reserved – For factory use only

Table 5

**Note:** Care must be taken when entering operating modes to prevent the clearing of factory preset configuration information.



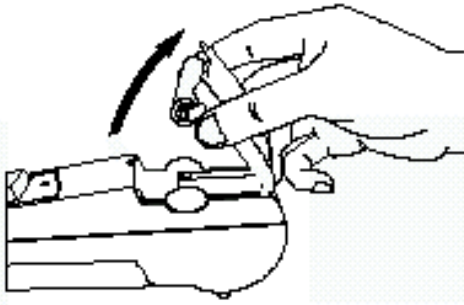
# Loading Paper

The PP-55 uses a drop-and-load design making paper loading easy and trouble free. To load paper, simply remove the paper cover and drop in the new roll as shown in the steps below.

Make sure that the paper is placed in the printer as shown in step 2 below.

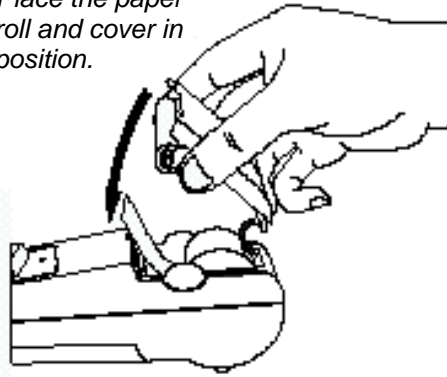
①

Open paper cover holder with both fingers and remove the remaining part of the old paper roll.



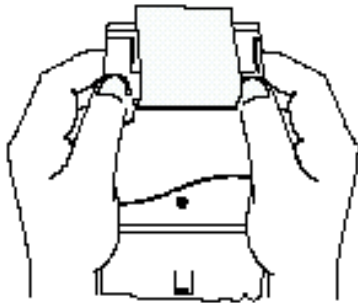
②

Place the paper roll and cover in position.



③

Press with both fingers to click cover of shell in place.



④

Make sure that the paper is fed out from the printer at a right angle. If not pull paper vertically by hand.

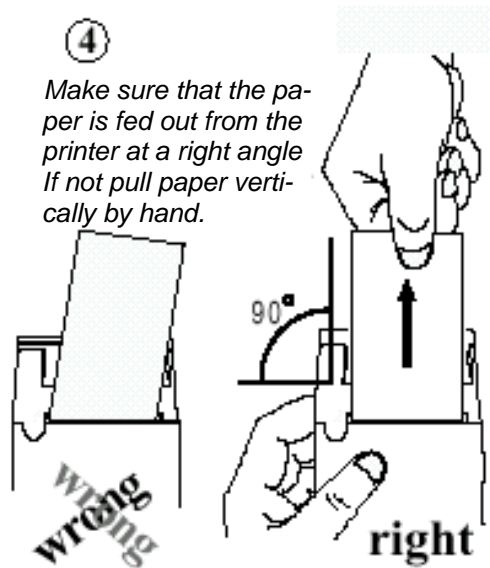


Figure 4

# Running Self-test

The PP-55 has a built-in test pattern that shows the printer's current configuration as well as the various resident printer fonts. The self-test can also be used as a troubleshooting tool to determine printing problems or battery level. The steps below show how the self-test is activated.

**Step #1:** Make sure the On-line **LED** is **OFF**. Before performing step #2.



Figure 5

**Step #2:** Press and hold the paper feed button in for one beep. Release the feed button after the first beep. The printer should start printing the internal test pattern

- Resident font sizes

- Number of characters per line

- Text formatting

- Resident character set

- Resident barcode symbols

- Printer's Configuration

```

IPC  Palm Printer
Model PP-55MS Ver. 1.01b
Two internal fonts: 9x16 & 12x24
Two loadable fonts: 9x16 & 12x24
From this font can be printed up
to 32 symbols/line
From this font can be printed up
to 42 symbols/line

Normal Bold Underline Italic
saeu6ee by 188 degrees
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Different sizes chars

!"#$%&'()*+,-./0123456789:;<=>?
@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_
`abcdefghijklmnopqrstuvwxyz{|}~
€ ,f,,t#~%$<@+*~'""*~%$>@ Y
iCEp¥!$"«»-~±²³´µ¶·¸¹º»¼½
AAAAAAACEEEEEIIITONOOOOBx00000Ypß
aaaaaaaæceeeiiiidnööööö=ouüüüÿþ

Supported bar codes:
EAN13, EAN8, UPCA, UPCE, Code39
Code93, 2 of 5 interleaved
Codabar, Code128


1 2 3 4 5 6 7 8 9 0 1 2 8

Downloadable graphics

Intensity: 100 %
Temperature: 22 C
Battery: 8.1 V
Speed: 115200 bps
  
```

Figure 6



# Compatible Devices

The PP-55 / PP-55MS portable thermal printer is designed specifically for use with most Pocket PC devices.

The PP-55 can be used in a variety of applications where hardcopy printouts are required.

**End Users –** for printing Emails, HTML pages, Graphics files, Clipboard data, text only files, Screen Captures, and more.

**Manufacturers –** for shipping & receiving goods, date and time printing, inventory control and W.I.P. management.

**Distributors –** for marking prices, sales receipts, route deliveries.

**POS –** for mobile sales receipts and credit card verifications in POS application.

The following is a list of devices that the PP-55 currently supports.

## Compatible Pocket PC products:

No.	Pocket PC Device	Operation System (OS)
1	HP iPAQ 3800, 3900, 4200, 5100, 5400, 5500, 2200	Pocket PC
2	Samsung i700	Pocket PC
3	HP 1700, 1900	Pocket PC

Table 6

Devices are added continually. Visit our web site at :

[http://www.ipcprint.com/products/mobility/complist\\_thermpp55-50.asp](http://www.ipcprint.com/products/mobility/complist_thermpp55-50.asp)

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# Attaching Device

The PP-55 has several versions designed to be used with specific Pocket PC devices. Care must be taken to ensure that the PP-55 cradle connector and PDA connector are not accidentally damaged. The figures below show how to attach the different device to the PP55 printer and how to remove the device from the printer.

**Soft Cradled (Cabled) version:**

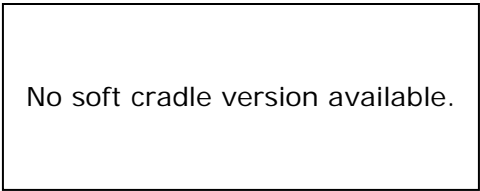


Figure 7

**Hard Cradled version:**

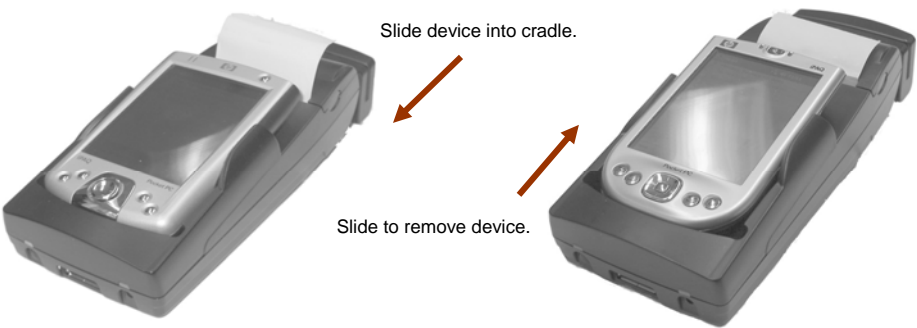


Figure 8

No.	Pocket PC Device	Hard Cradle	Soft Cradle
1	HP iPAQ 3900, 4200, 5100, 5400, 5500, 2200	X	
2	Samsung i700	X	
3	HP 1700, 1900	X	
4			

Table 7

# Attaching Mobile Device

The PP-55 has several versions designed to be used with specific devices. See section on compatible products to make sure your device will work with the PP-55.

Care must be taken to ensure that the PP-55 cradle connector and PDA connector are not accidentally damaged. The figures below show how to attach the different device to the printer and how to remove the device from the printer.

No.	Palm Device	Attaching PDA (see Figure 7 - 10)
1	HP iPAQ 3900, 4200, 5100, 5400, 5500, 2200	Device Type #1
2	Samsung i700	Device Type #1
3	HP 1700, 1900	Device Type #1
4		

Table 8

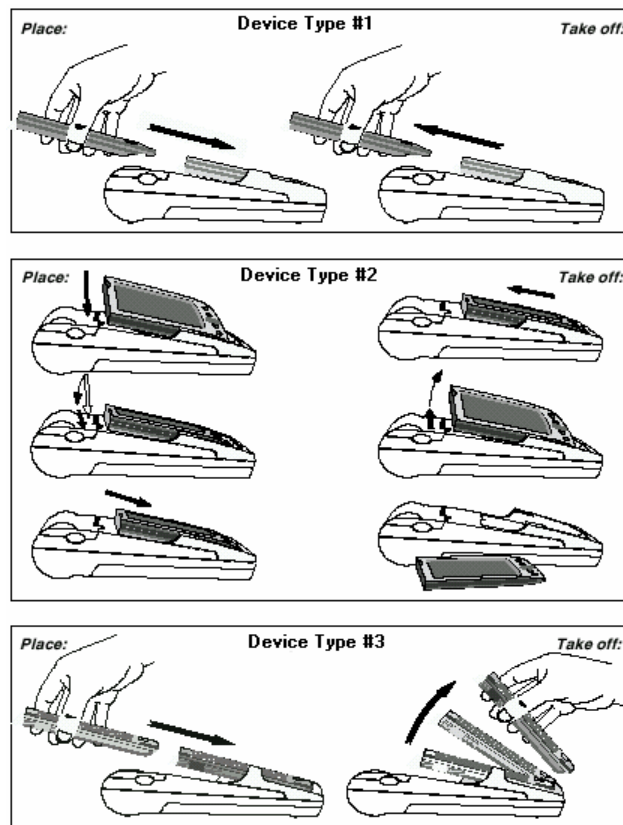


Figure 9

# Attaching Mobile Device

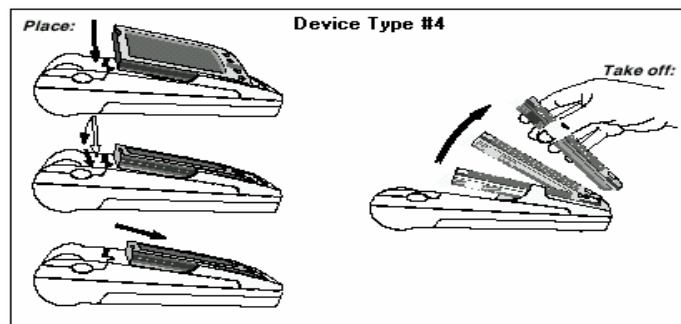


Figure 10

Although the PP-55 cradle is designed to hold the device in place, this does not prevent the device from accidentally slipping out if the printer is held in the position below.

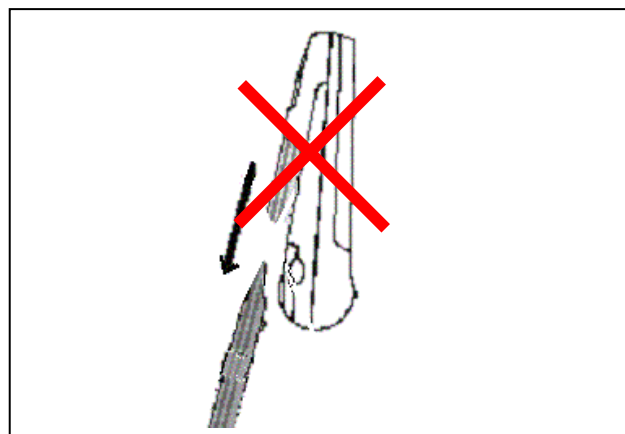


Figure 11

# Magnetic Card Reader (MS Version only)

The PP-55MS has a built-in magnetic card reader. The card reader incorporates a (3)-track magnetic read head requiring a single swipe to read field data from all three tracks.

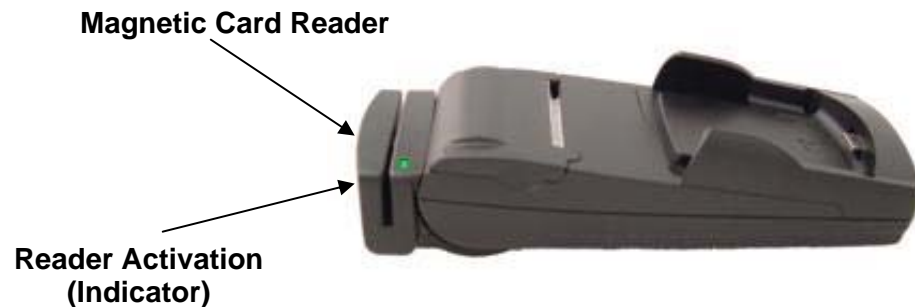


Figure 12

The magnetic read head faces towards the PDA cradle. When placing the card into the reader, the magnetic strip must be facing away from the PDA's cradle as show in the figure below. Keep the edge of the card flat on the inner base of the reader to ensure that the magnetic strip passes over the read head evenly.

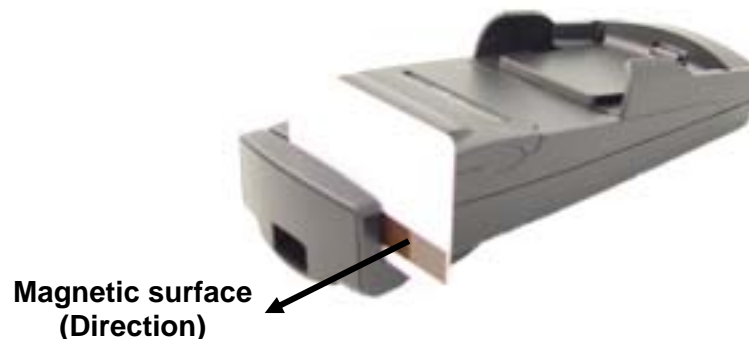


Figure 13

## User Notes:

To use the magnetic card reader feature, special software must be used to read and process the information. Please consult your reseller if this software is available or contact Infinite Peripherals for recommendations on compatible third party software solutions.

# Barcode Reader (MS BC Version only)

The PP-55MS BC offers a version with built-in barcode reader. The barcode reader incorporates a linear image scan head and is capable of reading 1D barcodes.



Figure 14

The effective reading distance of the PP-55 barcode reader is approximately 10 cm. To scan a barcode, position the read head as close to the barcode label as possible. Activate the scanner then slowly pull back the unit increasing the distance between the barcode and read head until the barcode has been read by the scanner.

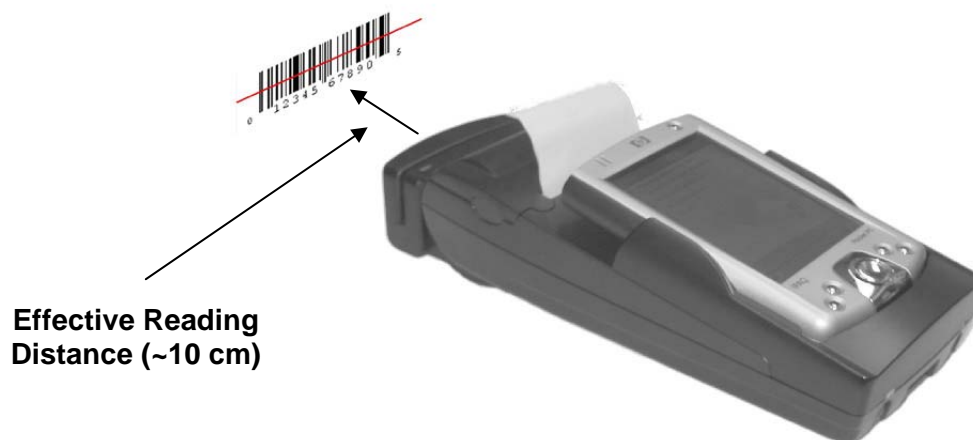


Figure 15

## User Notes:

To use the barcode reader feature, special software must be used to read and process the information. Please consult your reseller if this software is available or contact Infinite Peripherals for recommendations on compatible third party software solutions.

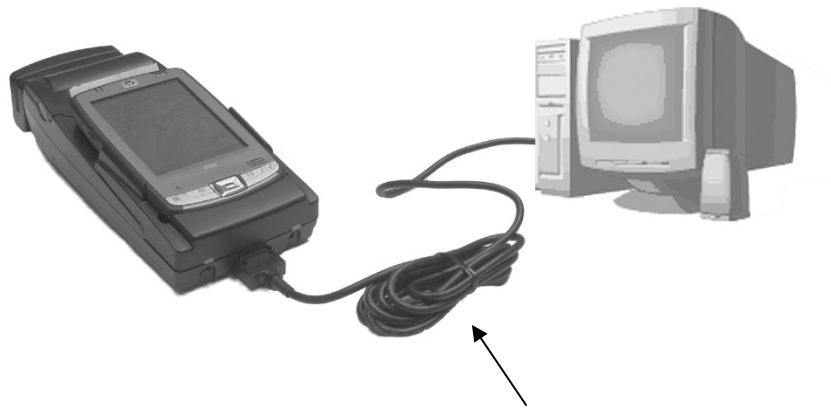


# Syncing Using PP55

The PP-55 is designed to work as cradle for syncing your Pocket PC device to your desktop PC through the standard PC USB port.

To sync your Pocket PC device to the PC, using the USB sync cable that is supplied with the PP5 connect one end of the cable to the PP55 and the other to any standard USB port as shown in the figure below.

Run the Windows Active Sync “supplied with Pocket PC device” to start the syncing process.



Interface cable (Hot Sync) for PP55 ( P50-DAT06-55 )

Figure 16

## User Notes:

When using the PP55 for syncing your PDA or Smartphone to desktop it is recommended that the PP55 USB cable is used. The PP55 Serial cable may not work properly for syncing with all Pocket PC devices.

Please contact Infinite Peripherals with your question regarding syncing.

# Replacing PP55 Battery

To replace the battery in the PP55 printer follow the steps below.

## Hard Cradled version:

1. Remove the device from the cradle.
2. Using a Philips screw driver remove the (2) cradle screws at point (A). Note: do not detach the flex cable that connects the cradle to the base unit.
3. Using a Philips screw driver remove the battery cover screw at point (B).

## Soft Cradled (Cabled) version:

1. Detach the device from the PP55 interface cable.
2. Using a Philips screw driver remove the battery cover screw at point (B).

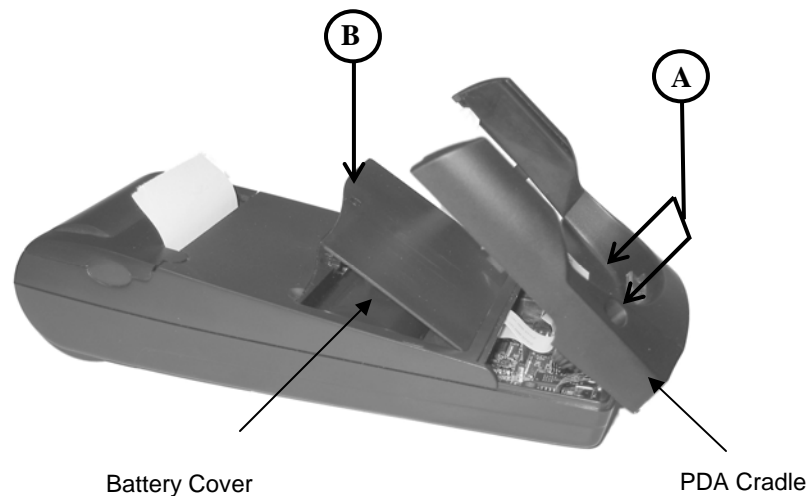


Figure 17

# Loading Device Software

The PP-55 comes with software package used for printing data from Pocket PC standard applications running on your handheld device.

The following is a description of these files and the file names:

Installation File Name	Description	Where to Load
PrintManager PP55 (WinCE 1.4) build 1141.exe	PP55 Print Manager	PDA

Table 9

For the latest PP-55 Pocket PC Print Software, visit our web site at:

<http://www.ipcprint.com/support/default.asp>

## Installing Software Steps:

1. [Download] Print Manager from: <http://www.ipcprint.com/support/default.asp>
2. [Unzip] Print Manager Installation file.
3. Place device into cradle.
4. Locate the Print Manager software [installation file] as indicated above.
5. [Run] the installation.

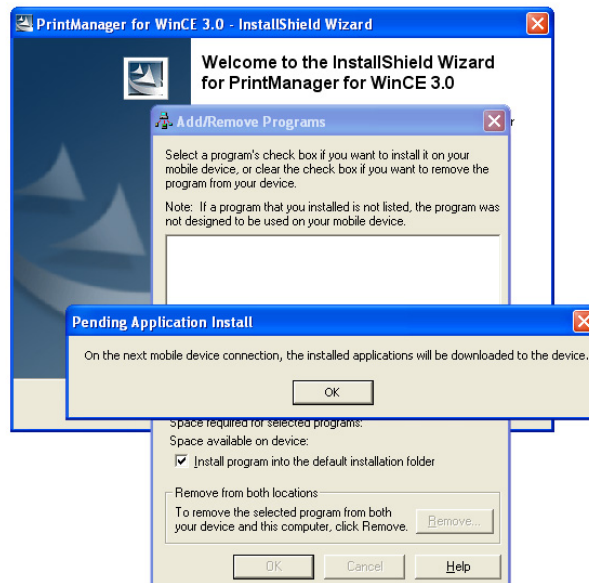


Figure 18

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# Print Manager

Print Manager is a print driver for PP55 thermal printer. Print Manager does not allow you to open documents on the Pocket PC device and print it on the PP55 thermal printer. It simply allows you to configure how printed documents are rendered on the PP55 printout. Special software written to use the PP55 Print Manager is required for printing and reading barcodes and magnetic card information.

After installing the PP55 Print Manager on to your PDA, open the Print Manager to setup the printer and general print settings.

\* The Print Manager can be found under: [ Start \ PrintManager ]

\* From the Print Manager's main screen you can print various types of documents using the PP-55 thermal printer.



Figure 19

\* The [ Other ] menu item lets you configure Print Manager and also lets you Scan Barcodes (requires PP-55 with barcodes scanner) and read Debit or Credit Cards (requires PP-55 with card reader).

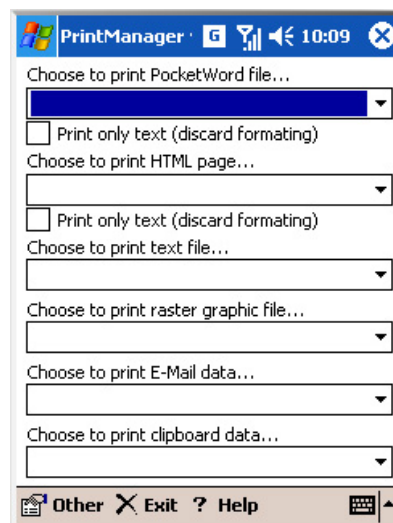


Figure 20

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# Printer & Port Configuration

Depending on your Pocket PC device, Print Manager [Ports] options must be configured correctly in order for the PP55 to properly communicate with your device.

- \* Tap on the [ Other ] menu item and select [ Printer Settings ] as shown in the figure on the right.

## Printer:

By default, printer is configured to use the [ PP55 ] thermal printer. If PP-55 is not selected, use the drop-down arrow to select the PP-55 printer.

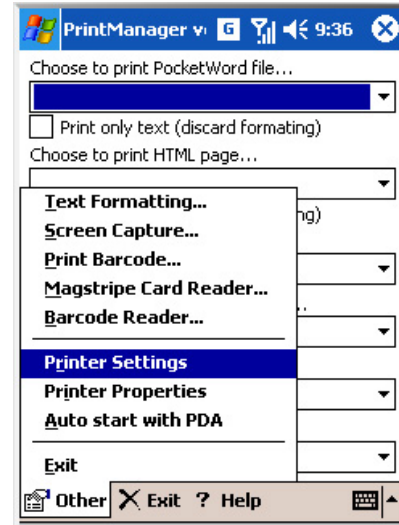


Figure 21

## Note:

The default printer needs only to be set once. After the initial configuration Print Manager remembers that last configuration. Installing Print Manager resets the default printer settings and requires reconfiguration

## Connection:

By default, Print Manager is configured to use the [ RS232 ] communications port.

If you are not certain what communications port your device supports, use the default printer port settings.

## Note:

The default port speed should be the same as the PP55 port speed. Factory default of the PP55 port speed is set to [115200]. Do not use other port speed unless you are certain that the PP55 port speed is different from the factory default.

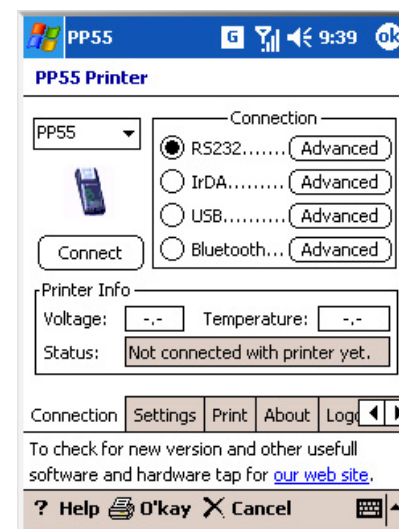


Figure 22

# Verify Printer Connected

After installing the Print Manager software package on to your PDA, do a quick check to determine if the printer is charged and PDA is securely in the PP-55 cradle.

The following will help you to determine these conditions.

**Case #1:** Open the **Print Manager** so that the screen on the right is displayed.

Note that the printer [Voltage] indicates no data.

The same is true for the [Temperature] option.

This means that PP-55 is not connected.

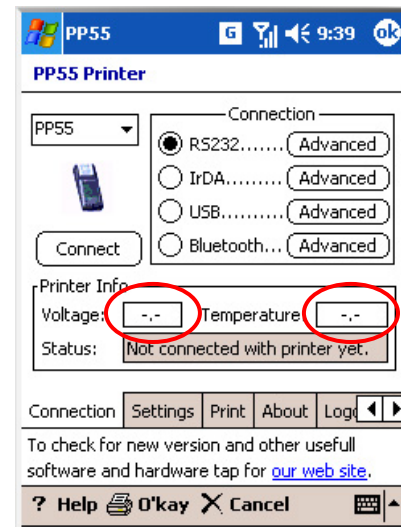


Figure 23

**Case #2:** Open the **Print Manager** so that the screen on the right is displayed.

Tap the [ Connect ] command option.  
If connection was successful, the Voltage and Temperature fields should now indicate values as shown in the example on the right.

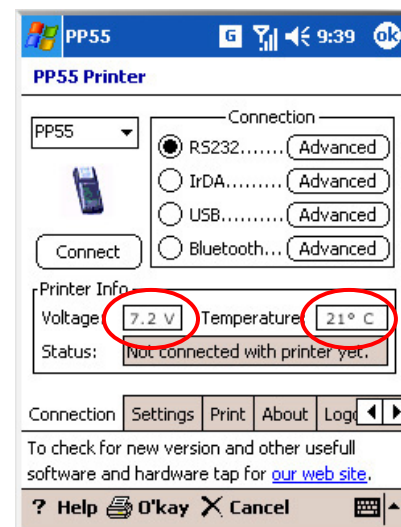


Figure 24

**Note:** If Voltage and Temperature fields still show no connectivity as in Case #1 and the battery has been initially charged, refer back to section “Attaching PDA” to make sure the PDA has been attached correctly.

# Using Logo

Print Manager can be used to store a logo to the PP-55 flash memory so it can be used for printed receipts. Print Manager also lets you enable or disable the printing progress dialog screen.

## Load File:

Is used to open and display the logo as shown in the figure on the right.

## Download:

Download is used to store the logo in the PP-55 flash memory.

## Delete:

Delete removes the logo currently stored in PP-55 flash memory.

## Test:

Is a test-print of the stored logo.

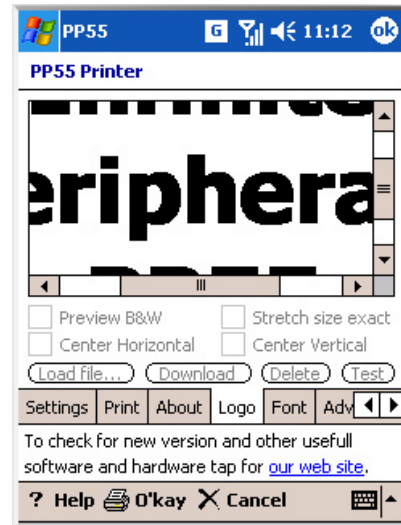


Figure 25

## Logo Manager (PC Utility):

For help with creating and testing logos for the PP55, use Logo Manager. Logo Manager is available for download at: <http://www.ipcprint.com/support/default.asp>

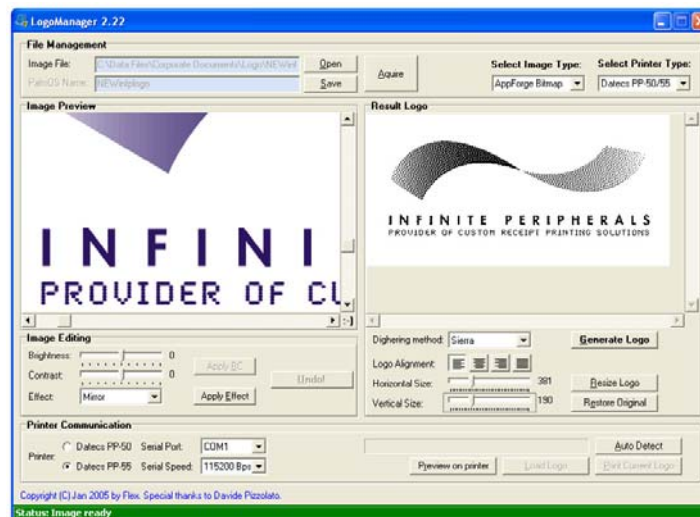


Figure 26

**Note:** Testing logos using Logo Manager requires the use of a special PP55 serial cable. The PC serial cable **#P50-DAT07-55** can be purchase from Infinite Peripherals.

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# Developing Solution

Integrating the PP-55 into your Pocket PC solution requires the use of the Pocket PC OS SDK for PP-55. The SDK incorporates API specific to developing application using the integrated Card reader, Barcode reader as well as incorporating Graphics, Barcode and Text printing capability of the PP-55.

The table below shows the SDKs currently available for Pocket PC OS devices.

SDKs	Language	IDE
VB CF.Net	Basic	Visual Studio .Net - Microsoft
Embedded VB	Basic	eVB - Microsoft
Embedded VC	C++	eVC - Microsoft
Appforge	Basic	Appforge - Appforge

Table 10

The figure below shows the relationship of these SDKs. Note that library extensions require the root library be installed on the device along with extensions.

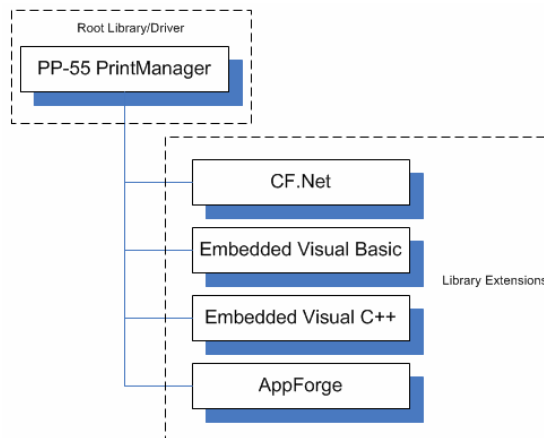


Figure 27

For details on using the different SDK, refer to the SDK's (SDK\_Help.html) file located in the SDK's sub-directory.

For the latest PP-55 SDK's, visit our developer web site at:

[http://www.ipcprint.com/support/downloads/mobility/supdw\\_thermpp55.asp](http://www.ipcprint.com/support/downloads/mobility/supdw_thermpp55.asp)



# Troubleshooting

If you're having a printing problem refer to the table below for possible causes.

Item	Problem	Possible Cause
1	Paper feeds after issuing a print job but no printed text visible on paper.	Thermal media is specially coated on outside of roll. Remove paper roll and reload properly. See section "Loading Paper" for details on loading paper.
		Paper cover not installed properly. See section "Loading Paper" for details on replacing paper cover.
2	On-line LED blinks fast continuously.	Printer out of paper.
		Paper not properly loaded. See section "Loading Paper" for details on loading paper.
3	Text and/or graphics are printed very light.	Battery voltage low. See section on charging battery pack.
		Thermal media not imaging correctly. Verify that you are using the recommended thermal media.
4	Strange characters are printed when printing.	Battery voltage low. See section on charging battery pack.
5	On-line LED always solid RED	Battery voltage low. See section on charging battery pack.
6	Printer stops responding to print and paper feed commands.	Remove battery for 5 seconds and reconnect battery.
7	Printing is light or missing only on half of the print width.	Paper cover not properly installed. See section on loading paper.
		Mechanism jarred loose. Contact technical support.

Table 11



# Contact Information

National Sales Headquarters:	Infinite Peripherals, Inc. 1340 Reynolds Avenue Suite 101 Irvine, CA 92614 Toll Free: 866-278-7860 Phone: 949-222-0300 Fax: 949-222-0375 <a href="http://www.ipcprint.com">www.ipcprint.com</a> <a href="mailto:MobileSales@ipcprint.com">MobileSales@ipcprint.com</a>
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